

REMARKS

Claims 16-32 remain unchanged. Claims 1-15 remain cancelled.

Reconsideration of the Examiner's rejection is respectfully requested in view of the following discussion.

The Examiner has rejected claims 16-18, 20, 21, 27 and 30-32 in view of AT Patent No. 401,868, hereinafter referred to as Lanz. The Examiner has also rejected claims 24 and 26 as being anticipated by US Patent 5,188,356, hereinafter Furr. Furthermore, the Examiner had rejected claims 19, 22, 25 and 28-29 as being obvious in view of the combination of Lanz and Furr. Yet furthermore, the Examiner has rejected Claims 16-17 and 19-29 as being anticipated by US Patent 3,888,482, hereinafter Starret. Yet furthermore, the Examiner had rejected claims 18 and 30-32 as being obvious in view of the combination of Lanz and Starret.

Claim 16 contains the following limitations:

16. A thumb splint for limiting angular motion of a thumb, said thumb splint being formed from **a single substantially elongated strap** defining a longitudinal axis, (...) said thumb splint comprising:

- a first loop, said first loop being formed by folding said strap first end portion onto said strap intermediate portion so that said strap first end portion and said strap intermediate portion are **substantially parallel** relative to each other and affixing said first strap end portion to said strap intermediate portion at a first loop attachment location, said first loop being dimensioned to accommodate a user's thumb near the base thereof;
- a second loop formed in said strap a predetermined distance from said first loop, said second loop being formed by folding said strap second end portion **substantially transversely** over and onto said strap intermediate portion and

affixing said strap second end portion to said strap intermediate portion at a second loop attachment location, said second loop being dimensioned to accommodate a user's index finger;

- **wherein said first loop attachment location is located outside of said second loop.**

Lanz describes many devices. In the devices shown in Figures 1, 3 and 4 of this reference, loops are formed by affixing both ends of a strap to the strap so that the portions forming the loops are either both parallel to the rest of the strap (Figures 1 and 4) or both perpendicular to the rest of the strap (Figure 3). This is contrary to the claimed invention wherein a first loop is formed by affixing a strap end portion substantially parallel to a strap intermediate portion and a second loop is formed by affixing another strap end portion substantially transversely to the strap intermediate portion.

In addition, it is clear from Figure 2 of this same reference that the device shown in this Figure is formed using at least two straps of material (one including the regions identified as 1 and 2 in this Figure, and the other corresponding to the reference numeral 5), in opposition to the claimed invention in which a splint is formed using a single substantially elongated strap. Furthermore, the device shown in this Figure is not such that a first loop attachment location is located outside of a second loop. To the contrary, two loops are formed in this device by using the second piece of material (5) to separate two regions of the device (1, 2) from each other. Therefore, two regions are defined using a single attachment location.

Having a thumb splint made of a single strap is advantageous as compared to embodiments wherein a similar device is formed using at least two straps of material as the splint thus formed is then more economical to manufacture, both as it requires less labour to form and as it typically requires that less material be used than in cases wherein many straps are assembled to each other. Indeed, in this latter case, there is a need to reinforce the locations at which two straps are attached to each other so that the attachment of the two straps is durable. In addition, using a single strap typically results

in a more durable splint as weaknesses that may be introduced by stitches or glue are then minimized.

Having two loops wherein a first loop attachment location is located outside of a second loop, as in the claimed invention, allows having a relatively flexible piece of material (or connector) between the loops, which increase comfort when the splint is worn as each loop may then be optimally and individually adjusted to a respective finger. In addition, the flexibility of this region between two loops is allows to better position the splint on the fingers so that the splint is more effective in preventing injuries. If two layers of material are superposed at a location between two loops, or if the loops intersect, the flexibility of the splint between the two loops is reduced and therefore disadvantageous in these respects.

The construction of the claimed splint wherein a first loop is formed by affixing a strap end portion substantially parallel to a strap intermediate portion and a second loop is formed by affixing another strap end portion substantially transversely to the strap intermediate portion also helps in the ergonomicity of the splint. Indeed, this allows having a splint that conforms relatively well to the anatomy of the hand, as opposed to similar devices wherein only one type of loop is included. Indeed, by folding the strap transversely, a loop that better conforms to the anatomy of the hand in the forefinger region is formed, while by folding the strap parallel, a loop that better conforms to the anatomy of the hand in the thumb region is formed.

Regarding Starret, this reference shows a device in which two loops are formed by affixing a strap parallel to itself at both ends, which is in opposition to the claimed device wherein a first loop is formed by affixing a strap end portion substantially parallel to a strap intermediate portion and a second loop is formed by affixing another strap end portion substantially transversely to the strap intermediate portion. The advantages of this configuration have been presented hereinabove and will therefore not be repeated hereinbelow.

Regarding Furr, this reference describes a device that includes only one loop insertable around a finger, in opposition to the claimed invention. Therefore, this reference teaches away from the claimed invention. If the thumb and the forefinger are not inserted within the two loops of a thumb splint, the injury prevention capabilities of the splint are greatly reduced. In fact, Furr suggests that the device described in this reference is suitable for aiding in shooting a ball, which greatly differs from a possible use of the claimed invention, namely to prevent injuries when falling.

Claims 21, 24 and 27 contain limitations similar to the above-mentioned limitations, which the Applicant submits are neither taught nor suggested by Starret and Lanz, either alone or in combination. For example:

In claim 21:

21. A thumb splint for limiting the angular motion of a thumb, **formed from a single substantially elongated strap** of a substantially non-elastic material having a first surface and a second surface, said thumb splint comprising:

- a first loop formed at a first end of said strap, by folding said end of strap onto said strap, **substantially parallel** thereto, and affixing said first end thereto, said first loop being dimensioned to accommodate a user's thumb, near the base thereof;
- a second loop formed in said strap a predetermined distance from said first loop, by folding said **strap substantially transversely** over and onto itself and affixing said strap to itself at the point of intersection, said second loop being dimensioned to accommodate a user's index finger.

In claim 24:

24. A thumb splint to prevent injury to the ulnar collateral ligament of a thumb, said thumb splint comprising: **a single strip of webbing**, said single strip of webbing having:

- an index finger receiving section positionable substantially proximate to the carpophalangeal joint of an index finger, said index finger receiving section being formed by affixing **substantially transversely** one end of said webbing to a first position along said webbing, thereby forming a loop;
- a **substantially non-extendable connector** being formed from said webbing extending from said first position;
- a **thumb receiving section** for engaging a **substantial portion of an outer edge of the proximal phalanx bone of a thumb**, said thumb receiving section being formed from said single strip of webbing at an end of said non-extendable connector
- **wherein said single strip of webbing loops from said end of said extendable connector around said proximal phalanx bone and is affixed to said end of said non-extendable connector;**
- a substantially elongated strap formed from said single strip of webbing, said elongated strap extending from said end of said non-extendable connector over a palm, around a wrist, and over a back of a hand.

In claim 27:

27. A thumb splint comprising: **an elongated band of a substantially non-elastic material having a thumb-receiving loop formed in a first end thereof, and a second, forefinger-receiving loop formed by folding said band of material at about 90 degrees over itself, and securing the band to itself at the point of intersection, to define a top to bottom tapering forefinger-receiving loop in the band of material, said thumb-receiving and forefinger-receiving loops being disjoint from each other.**

In addition, in opposition to the invention disclosed in Lanz, Figures 3, Claims 24 and 27 mention that the two claimed loops are disjoint from each other. In Lanz, Figure 3, the two loops intersect each other, which is required by the manner in which the device illustrated in this Figure is secured to the wrist of a wearer. Therefore, Lanz teaches away from this limitation of claims 24 and 27.

In addition, claim 27 includes the following limitation:

(...) and a second, forefinger-receiving loop formed by folding said band of material at about 90 degrees over itself, and securing the band to itself at the point of intersection, to define a top to bottom tapering forefinger-receiving loop in the band of material,(...).

None of the references cited by the Examiner describes this limitation. Indeed, the only reference in which two regions of material are affixed transversely relatively to each other is Lanz. However, in this reference, the loop thus formed is substantially cylindrical, as seen for clearly for example in Figure 2 of this reference.

The frustro-conical shape of the claimed invention is advantageous as it conforms to the anatomy of the base of the forefinger. Therefore, when used, the claimed splint is more comfortable to wear, less likely to slip away from the base of the finger and transmits forces exerted onto the forefinger over a relatively large area as compared to the device described in Lanz.

In view of the above, the Applicant respectfully requests that the rejection of claims 16, 21, 24 and 27 be withdrawn as none of these claims is taught nor suggested by Lanz, Furr or Starret, either taken individually or in combination. In addition, claims 17-20, 22, 23, 25, 26 and 28-32 depend either directly or indirectly from one of claims 16, 21, 24 and 27, which the Applicant believes are in condition for allowance. Accordingly, claims 17-20, 22, 23, 25, 26 and 28-32 include all the limitations of the base claims from which they depend and the Applicant respectfully submits that these claims are therefore also in condition for allowance. Consequently, the Applicant respectfully requests that the Examiner's rejection of claims 17-20, 22, 23, 25, 26 and 28-32 be withdrawn.

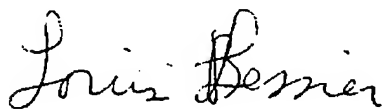
The Examiner has also rejected claims 16 and 19 under the doctrine of double patenting over claims 1 and 2 of US Patent 6,738,507. Amended claim 16 does not include a limitation directed to the fact that a positioning component is incorporated into a glove or

a mitt, as included in claim 1 of the '507 Patent. Also, amended claim 16 has a limitation related to the forming of a loop by folding a strap second end portion substantially transversely over and onto a strap intermediate portion, which is not present in either of claims 1 and 2 of the '507 Patent. Accordingly, the Applicant respectfully submits that claim 16, and claim 19 from which it depends, constitute a different invention from the invention claimed in the '507 Patent. Therefore, the Applicant respectfully requests that the rejection of claims 16 and 19 be withdrawn.

The Examiner stated that the claims include functional language. The Applicant respectfully disagrees. The Applicant respectfully submits that the language used in the claims describes a structure and does not include a stated goal or any other functionality. Also, the prior art does not disclose the proposed structure as explained in details hereinabove.

It is respectfully submitted that when the rejection of the claims is reviewed in light of Applicant's arguments, the invention without a doubt should be considered patentably distinguished over the currently applied references. It is now believed the above application is in order for Allowance and such action would be appreciated.

Very Respectfully submitted.



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